茶菁萎凋及攪拌過程對臭菁味及乙烯生成變化之影響

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摘　要：茶菁萎凋適用之人工鼻探針模組篩選結果以 A1N、A7N、DH31、HAC01、OS9、OR5 及 TN 組成之探針模組，於萎凋過程中觀測香氣變化，由聚類分析顯示第一次攪拌後與攪拌前接近，而第四次攪拌後則與殺菁前接近，若配合人工智慧之類神經網路分析軟體，應可作為萎凋過程中的監測指標。茶菁萎凋終點的判斷以人工鼻探針 A5N-1D 殺菁前的香氣產生的高峰走勢，進行殺菁製茶後之官能品評結果，以第五次及第六次香氣波峰所製成之茶品質較佳，而第六次香氣波峰為傳統人工判斷之殺菁時機，製茶程序以探針頻率變化為判斷指標與傳統人為方式判斷，具有相當之一致性。依照氣孔導度計及掃瞄式電子顯微鏡觀察的結果顯示，茶芽葉片之氣孔自田間採收後即趨向關閉，經日光萎凋後則完全關閉，後續的攪拌操作並不影響氣孔開閉。日光萎凋後 1 小時，二氧化碳與乙烯的生成量不論對照組或處理組都在較高的水平（CO_2 1,400 ~ 1,700 mg / kg / hr；C_2H_4 2.5 ~ 4μl / kg / hr)，但處理組的乙烯生成量顯著高於對照組。在攪拌過程中，每攪拌一次，二氧化碳生成量會提高；乙烯在前三次也是如此，但第三次攪拌後就都維持在高峰期。

The Influence of Withering and Stirring Treatment on Tea Flush's Grassy Flavor and Ethylene Formation

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Abstract: The probe AIN, A7N, DH31, HAC01, OS9, OR5 and TN were combined to the modular, to detect the flavor change during the withering and stirring process, and to use Hierarchical Dendrogram analysis. The Dendrogram shows that the treatment of "before panning", "after 4th stirring" and the "after 1st stirring", "began indoor withering" was near. Smell Analyzer combined artificial wisdom system can recognize different withering process and serves as a withering index. The A5N probe's "frequency changes" curve matches for the tea flavor dynamic change curve, and at every flavor peak generation, the tea flush was sampled to make the raw tea and proceed further sensory evaluation for their quality degrees. The raw tea made at the flavor peak NO. 5 and NO.6 had better quality, and the flavor peak NO. 6 matches the determination point in the traditional method, which can be used for the detection of the withering terminal point. Observed from the null balance porometer and SEM, the stomata of the leaf of tea flush were closed after solar withering even indoor withering and stirring processing. The tea flush of treatment and control generated high level of carbon dioxide and ethylene（CO_2 1,400 ~ 1,700 mg / kg / hr；C_2H_4 2.5 ~ 4 μl / kg / hr）1 hour after solar withering, but the ethylene generation of treatment were apparently higher than the control. After every stirring, the carbon dioxide and ethylene generation rise, but ethylene generation was to maintain a high peak after 3rd stirring.